Mutual funds are captives of the investment management firms, also known as fund sponsors, that bring them into existence and provide for their day-to-day operations. Because fund sponsors exercise complete control over the operations of their funds, the possibility arises that a fund sponsor will use its position of control to obtain advisory fees that are greater than those that would have been established by arm’s-length bargaining. A fundamental responsibility of independent mutual fund directors, which serve as watchdogs over the interests of mutual fund shareholders, is to ensure that advisory fees are reasonable in light of, among other factors, economies of scale and profitability realized by a fund sponsor. Yet, despite oversight by independent directors, this paper shows that many mutual fund sponsors have been able to maintain high advisory fees and have realized increasing levels of economies of scale and profitability, as industry assets increased more than 600% between 1995 and 2018. The nub of the issue is that the methodologies used to calculate profitability have largely evaded meaningful scrutiny by fund boards, which are typically advised that there is no “right answer” when it comes to a methodology. Yet, sponsors are keenly aware that litigation risk arising from excessive profitability could force advisory fee decreases on large and highly profitable funds, and therefore are incentivized to use inappropriate cost allocation methods to understate profit margin. Vigilant fund directors should recognize this potential conflict and rectify the situation, but this has not happened. This paper explores profit margins, scale economies, cost allocation methodology and case law in depth. It identifies two large fund complexes with unambiguously inappropriate cost allocation methodologies and presents circumstantial evidence of widespread use of such practices in the industry.


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I. INTRODUCTION

In a recent paper the authors identified a curious circumstance involving mutual fund advisory fees.\(^2\) Between 2005 and 2015 actively managed open-end mutual fund assets more than doubled from about $4.6 trillion to about $9.5 trillion.\(^3\) Over the same time period, asset weighted average advisory fees rose slightly while distribution and administrative fees fell substantially.\(^4\) The mutual fund advisory function is subject to substantial economies of scale\(^5\) and large increases in assets should result in decreases in average advisory fees. Why this did not occur is explained in this paper.

Mutual funds operate with a unique corporate structure. Funds are controlled entirely by, and are captives of, the fund sponsors that bring them into existence and provide for their day-to-day operations.\(^6\) Thus, mutual funds, in effect, purchase their advisory services from a monopolist which, with respect to the particular funds that it serves, faces no competition from other investment managers and effectively sets its own compensation (at least at a fund’s inception). This arrangement gives rise to an obvious conflict of interest between a fund sponsor (who controls the fund and naturally prefers higher fees) and fund investors (who prefer lower fees). While independent directors—the fund “watchdogs” under the Investment Company Act of 1940 (the “1940 Act,” or the “ICA”)—have long been the frontline defense to this conflict, Congress eventually concluded that additional investor safeguards were required.\(^7\) Thus, in 1970, it imposed a statutory fiduciary

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\(^3\) Id. at 774.

\(^4\) Id. at 774, 777.


\(^7\) Id.; See Gartenberg v. Merrill Lynch Asset Mgmt., 694 F.2d 923, 933 (2d Cir. 1982).
duty on fund sponsors with respect to fees and created a private right of action for investors to enforce that duty.8

The precise nature of a sponsor’s duty with respect to fees, however, was not defined by statute, and thus it fell to the judicial system to establish fiduciary standards in mutual fund fee cases. The standard that was ultimately adopted by courts was first articulated by the Second Circuit in Gartenberg v. Merrill Lynch Asset Management, Inc. as follows: a fee is excessive, and gives rise to liability under the 1940 Act, when it is “so disproportionately large that it bears no reasonable relationship to the services rendered and could not have been the product of arm’s-length bargaining.”9 The Supreme Court endorsed Gartenberg in 2009 in Jones v. Harris Associates L.P.10

A court’s analysis under Gartenberg considers all factors potentially relevant to the fee in question, but Gartenberg sets forth six particular factors that courts have focused on in subsequent cases (the so-called “Gartenberg factors”): (1) the nature and quality of services provided to the fund; (2) the profitability of the fund to the adviser-manager; (3) “fall-out” (i.e., indirect) benefits received from the funds; (4) the realization of economies of scale in fund operations; (5) comparative fee structures; and (6) the independence and conscientiousness of the directors/trustees governing the fund.11

This paper focuses on three of the six factors: profitability, economies of scale, and the independence and conscientiousness of the directors/trustees governing the fund.12 As will be demonstrated below, profit margins are mathematically intertwined with economies of scale. All else equal, as savings through economies of scale are realized (i.e., the relative cost of operating a fund falls as it increases in size), profit margins increase. In the Gartenberg case itself, profitability and economies of scale were indeterminant for the reasons discussed below. Subsequent courts have grappled with the role of profitability in analyzing an allegedly excessive fee. Notably, in Schuyt v. Row Price Prime Reserve Fund, Inc., the court examined the advisor’s profitability in light of, among other things, the elite performance of the fund and the board’s engagement on fees in recent years, and found that a margin of about 77% did not violate fiduciary standards.13

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9 Gartenberg, 694 F.2d at 928.
11 Gartenberg, 694 F.2d at 928–30.
12 It is worth noting that the profitability factor as typically referenced is singular, as it is applicable to a single fund independent of other funds at issue.
This level of profitability has set somewhat of a ceiling in the industry, despite that the facts justifying the 77% margin in Schuyt are undoubtedly not applicable to most mutual funds, especially average or underperformers with poor or lackadaisical board processes.

Perhaps equally important, Schuyt also considered the appropriateness of the advisor’s methodology for calculating profit margins. Because a significant portion of an advisor’s cost structure includes costs common to all (or at least some) of the funds it manages (e.g., office space, administrative personnel, or in-house lawyers), calculating profitability at the fund level requires some methodology for allocating these indirect costs between the funds. Schuyt established a rigorous and reasonable method of cost allocation that yields a correspondingly rigorous and reasonable measurement of economies of scale. We show in this paper that the investment management industry has systematically utilized inappropriate cost allocation methods in order to understate profitability. The methodology used also corrupts the measurement of economies of scale. The net effect is that fund boards get a distorted picture of profitability and economies of scale, while the investment management industry circumvents the Schuyt ceiling and continues to charge high fees.

Mutual fund boards have stood idly by and allowed this to happen. Independent directors are fiduciaries, supposedly able to exercise ordinary business judgment in exercising their duties as watchdogs. Ordinary business judgment should encompass a basic knowledge of financial and managerial accounting and business law. Directors ordinarily receive profitability and economies of scale information in § 15(c) reports required by the ICA and enforced by the SEC. Section 15(c) gives directors an affirmative duty to ask for information relevant to their deliberations, including cost allocation information, and gives fund sponsors an affirmative duty to provide such information. We present information below consistent with the proposition that the investment management industry has deliberately and systematically used inappropriate cost allocation methods and that fund directors have allowed this to happen.

The nub of the issue involves a distinction between Financial and Managerial accounting. Financial accounting is accounting intended for the use of external entities. For U.S. public companies, businesses are required to perform financial accounting in accordance with generally accepted

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14 Schuyt, 663 F. Supp. at 979.
16 Id. Section 15(c) requires Independent Directors to request from the Adviser (and similarly requires the Adviser to provide) the information described above as well as any other information the Independent Directors deem necessary and appropriate for their review and consideration of a Fund’s Investment Advisory Agreement.
accounting principles (GAAP). The establishment of these accounting principles is to provide consistent information to investors, creditors, regulators, and tax authorities.

The lodestone of financial accounting is disclosure. The Full Disclosure Principle states that all relevant and necessary information for the understanding of a financial statement should be included on a set of financial statements for public company filings. Full disclosure also refers to the general need in business transactions for both parties to tell the whole truth about any material issue pertaining to the transaction.

Managerial accounting, on the other hand, is intended for internal use of the firm. Firms may use whatever cost allocation methodology they feel is appropriate and which yields the most accurate measure, depending on the intended use of the analysis. Because there are no preferred or mandated cost accounting methods, courts have ruled that investment management firms may use whatever allocation methodology they want if the directors approve it. It is a fundamental thesis of this paper that this is misguided, wrong, and allows the investment management industry to maintain higher fees than should be allowable as assets increase over time.

Our argument is simple. In normal managerial accounting there are no conflicts of interest involved. What firms do internally is their own business, and the purpose is only to further their own internal decision-making and analysis. The situation is quite different for mutual funds and investors because the results of the “internal” allocation methodology will have direct effects on investors’ investment performance and ability to save and accumulate assets. Fund sponsors will, in most instances, prefer higher fees, and will have an incentive to understate profitability in presentations to fund directors, who should, in most instances, prefer low fees for the benefit of fund shareholders. Therefore, given the implications of these models (billions of dollars in fees deducted from the accounts of American savers), as with financial accounting standards, there should be consistent and codified cost allocation standards applied in mutual fund profitability calculations.

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17 GAAP refers to a common set of accepted accounting principles, standards, and procedures that companies and their accountants must follow when they compile their financial statements. GAAP is a combination of authoritative standards (set by policy boards) and the commonly accepted ways of recording and reporting accounting information.

18 The Securities Act of 1933, Pub. L. No. 73-22, 48 Stat. 74 (codified at 15 U.S.C. §§ 77a–77mm), is based upon a philosophy of disclosure, meaning that the goal of the law is to require issuers to fully disclose all material information that a reasonable shareholder would require in order to make up his or her mind about the potential investment.
The implementation of such standards is not as complicated as it might first appear. For example, Schuyt utilized a well-established and rational cost allocation methodology for calculating profit margins. The Schuyt methodology should be the required methodology in calculating profit margins for § 15(c) purposes. Fund directors, as fiduciaries and watchdogs, should insist that this is the case. We examine these issues in depth.

The paper is organized as follows: In Part II we drill down into the intricacies of profit margin calculations and show how profit margins and economies of scale are intertwined. Different cost allocation methods are examined, and it is demonstrated that asset-based cost allocation methods distort scale economy presentations. In Part III we survey the legal landscape as it relates to cost allocation methodology and show how the industry has created a false narrative about profit margin calculations. Strict segregation of advisory and distribution costs as dictated by SEC Rule 12b-1 clarifies the issues. We show that the seminal profit margin case, Schuyt, handles cost allocation issues properly. In Part IV we switch gears and survey the behavior of actively managed open-end fund expenses from 1995 to 2018. Over that period, total expense ratios fell substantially while, despite scale economies, advisory fees declined only modestly, and administrative and distribution fees fell dramatically. We analyze the advisory fees of exiting, entering and continuously traded funds and show that the industry was able to maintain advisory fee levels by issuing thousands of new funds. In Part V we present empirical evidence indicating that asset-based cost allocation methodologies are common in the investment management industry. Part VI looks at the duties and responsibilities of independent directors and infers an overall failure of fund governance as the ultimate cause of high advisory fees. Part VII surveys overall results of the paper and suggests that the cure is for independent directors to address the conflict of interest that allows fund sponsors to overcharge investors in large funds.

II. PROFIT MARGINS, ECONOMIES OF SCALE AND COST ALLOCATIONS

Profit margins, cost allocations, and economies of scale are mathematically intertwined. This section examines these concepts and sorts out the interrelationships among them. We demonstrate that when the analysis is confined to the advisory function, profit margins in the mutual fund investment management business are associated with substantial economies of scale. We also show how different cost allocation methodologies impact profit margins and economies of scale.

A. Profit Margin: The Basics

A generic definition of profit margin is Profit (P) divided by Revenue (R). Profit is Revenue minus Costs (C). Thus, the profit margin is P/R or (R – C)/R. The intuition is simple; profit margin is the percentage of revenue
that the business realizes in profit. Three variations of profit margin may be defined depending on costs included in the numerator.

Gross Profit Margin (GPM) is defined as Revenue minus Direct Costs (DC) divided by Revenues, or \((R - DC)/R\). A direct cost is a cost that can be directly tied to the production of a specific good or service. Gross income is typically defined as revenue less direct costs.

Operating Profit Margin (OPM) adds indirect costs (IC) to direct costs. OPM is \((R - DC - IC)/R\). Because indirect costs are subtracted from the numerator, OPM is lower than GPM. In a mutual fund context, case law typically focuses on OPMs. Operating income is revenue less direct and indirect costs.

Net Profit Margin (NPM) includes taxes in the costs subtracted from revenue to generate profits. Net profit is Revenue less direct, indirect and tax costs.

Profit margins may be calculated for different product lines as well as for whole firms. In a mutual fund context, OPMs on the advisory function are proprietary and typically not available to competitors or the general public. When revealed in the litigation process they are usually subject to confidentiality agreements.

Operating profit margins at the firm level are publicly available for some but not all mutual fund investment management firms. Most such firms are privately held or subsidiaries of large financial firms and OPMs are not available. However, there are a significant number of publicly traded mutual fund investment management firms for which OPMs are commonly available from financial databases or calculable from published financial statements.

B. Operating Profit Margins—Fund Level

The profitability of individual funds is commonly scrutinized by fund directors or trustees as part of the contract renewal process. It is of interest to directors to have a sense of profit margins in the whole industry as part of the contract renewal process. The Mutual Fund Directors Forum (MFDF) recently hosted a webinar where some summary profit margin numbers were presented.¹⁹

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¹⁹ Mutual Fund Directors Forum, Beyond Expense Benchmarking: Economies of Scale, Mutual Fund Profitability, Breakpoints and Director Oversight (June 1, 2016), https://mfdf.org/images/ArchiveMaterial/Profitability16.pdf [hereinafter Beyond Expense Benchmarking] (on file with the authors).
A distillation is presented in Panel A of Table 1. What is labeled as “Pre-Tax Profit as a % of Advisory Revenue” is another way to describe Operating Profit Margins discussed above. Recall from the previous section that the industry has essentially taken the view (albeit incorrectly) that profit margins below the 77% profit margin approved in Schuyt are categorically reasonable. The margins in Panel A are consistent with that. The Webinar shows a high average and low margin for every year from 2005 to 2015. The overall average was 55.3%, the average high was 66.8% and the average low was 34.8%.

The MFDF Webinar shows “illustrative” operating margins on different categories of funds, i.e., equity, fixed income, etc. The most profitable funds are equity funds which average about 71%. Alternative funds20 yield average profit of 50% and fixed income portfolios of 45% profitability. The profitability of money market funds portfolios in 2015 was only about 2%.21 The then current industry average advisory profitability was about 54%.

Although profit margins in the litigation process are typically subject to confidentiality agreements, on occasion such information enters the public realm in published opinions. A recent decision, Chill v. Calamos,22 surveyed available information. In addition to citing Schuyt and its 77% profit margin, Chill cites a case against Oppenheimer Management Corporation23 where the adviser earned an 89% operating margin. A 2019 case against the Davis New York Venture Fund revealed operating margins in the range of 73 to 81%.24 Similarly, operating margins in a 2017 case against Hartford Investment Financial Services were in the range of 46 to 80%.25 Finally, a 2018 case against New York Life Investment Management showed margins in the range of 46 to 53%.26 Thus, available information from case law tends to corroborate the levels and ranges of fund operating margins presented at the MFDF Webinar.

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20 Funds with the Morningstar category “Alternative Strategies” implement non-traditional strategies such as Market Neutral, Long-Short strategies, or managed futures or option writing.
21 This was caused by historically low interest rates on money market instruments forcing fund sponsors to waive fees in order to generate positive returns to investors.
Two statements in the Webinar authenticate certain concepts important to this paper, each associated with the proper calculation of profitability of a fund to the investment manager. First is the statement that there are “[n]o guidelines or generally accepted accounting principles for fund-by-fund
calculations. Organizations use different methodologies to arrive at profitability calculations.\(^\text{27}\) This is consistent with the idea that investment advisors have license to use essentially any cost allocation method they choose. Second is the statement: “Profitability should be evaluated excluding marketing and distribution.”\(^\text{28}\) This is consistent with the approach utilized in Schuyt and SEC Rule 12b-1 discussed below.

The implications of the second statement are important. Investment managers must calculate profitability for each fund on a pre-distribution basis. This implies that in the normal course of business, investment managers are required to isolate and segregate advisory costs from distribution and marketing costs.

C. Operating Profit Margins—Firm Level

Operating profit margins at the firm level are lower than margins at the fund level because investment management firms must market and distribute the funds to ultimate customers. Margins on these activities are typically lower than fund margins and sometimes negative. Hence the profitability reported at the firm level will be diluted by including the addition of distribution revenue and cost. This has no bearing, however, on the profitability of the advisory function.

The MFDF Webinar has an exhibit of high, low, and average firm level margins for the 2005 to 2015 periods.\(^\text{29}\) These margins are averaged in Panel B of Table 1. Over the period in question, the average firm level operating margin was 31.6% with an average high of 45.7% and an average low of 17.4%.

The right-hand side of Panel B summarizes an MFDF illustration of a typical fund channel profitability.\(^\text{30}\) The assumption in the illustration is that advisory margins are 49% and shareholder service margins are 10%.\(^\text{31}\)

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\(^{27}\) *Beyond Expense Benchmarking*, supra note 19, at 10.

\(^{28}\) *Id.*

\(^{29}\) *Id.* at 13.

\(^{30}\) *Id.* at 14.

\(^{31}\) Mutual funds are sold through five principal distribution channels: (1) the direct channel; (2) the advice channel; (3) the retirement plan channel; (4) the supermarket channel; and (5) the institutional channel. The MFDF illustrates the direct channel where the investment manager collects fees in the form of a 25 basis point shareholder service § 12b-1 fee and services shareholders directly with phone banks, internet sites, etc. In the advice channel, funds are sold through brokers and investment advisers. In the retirement plan channel, funds are sold through 401k plans. Funds are sold on the internet through the supermarket channel and directly to institutions in the institutional channel.
Distribution margins are negative 30% and the overall firm margin in the illustration is 25%.

Unlike fund level margins, operating margins at the firm level are available for publicly traded firms. The Compustat database was screened for publicly traded mutual fund investment management firms with at least $1 billion in revenue for fiscal year 2018, the latest annual data available when this paper was written. The results of that analysis are presented in Panel C of Table 1.

For the fiscal year 2018 the simple average operating margin was 31.1% and the income weighted operating margin was 35.5%. The average numbers are consistent with the MFDF average for 2005 to 2015. The higher weighted average number (35.5%) is some indication that larger firms (highest revenue firms) had higher margins on average and in some sense greater economies of scale. The range was from a low of 10.3% (Legg Mason) to a high of 44.4% (Affiliated Managers). All data were obtained from 2018 annual reports, available online.32

D. Economies of Scale in the Investment Management Function

Scale economies may be understood as the proportionate reduction in unit cost resulting from increasing the scale of production. The essential notion is intuitive: if the fixed cost per year of a widget factory is $1 million and the factory produces one widget, then the unit cost is $1 million. If the factory produces one million widgets, then the unit cost is $1. Of course, there may be some variable costs in producing a widget, but the basic notion is that as fixed costs get spread among more units, the cost of each unit declines.

The notion that investment management involves economies of scale is also intuitive. It should not cost much more to manage $1 billion in assets than it costs to manage $100 million. The investment management function is highly scalable. The infrastructure necessary to produce investment decisions may be considerable but the decisions themselves, the ultimate product of investment management, may be applied to large as well as small portfolios with little or no incremental cost.

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32 Mutual fund management is the principal line of business for the firms in Panel C of Table 1. However, in some cases it is not the only line of business. For instance, a significant amount of Blackrock’s operating income is generated by exchange traded funds, technically closed-end mutual funds. The main purpose of Panel C is to confirm that current operating margins are consistent with the MFDF numbers for 2005 to 2015.
There is a mathematical relationship between profit margins and economies of scale in the investment management function. Table 1 established that overall average profit margins on all funds exceed 50% and that equity funds average about 70%. It will be demonstrated that it is impossible to have substantial profit margins without also realizing substantial economies of scale.\footnote{The astute reader will recognize that “impossible” is not strictly true. It is possible for margins to increase while costs stay the same as a result of increases in fee rates. While a technical possibility, in reality fee increases require approval of shareholders and rarely occur in practice. See Camelia M. Kuhnen, Dynamic Contracting in the Mutual Fund Industry 15–16, 39 (Feb. 15, 2005) (unpublished manuscript), available at http://ssrn.com/abstract=687530.}

The demonstration involves certain assumptions. First, the fund in question is a stand-alone fund. It is assumed to be the only fund managed by the investment management firm. The fund carries an investment management fee of 1% or 100 basis points, assumed to remain constant over the range of assets in the example. It is assumed that the fund breaks even at $100 million of assets under management\footnote{Melinda Gerber, Start a Successful Mutual Fund: The Step-by-Step Reference Guide to Make It Happen (2004).} and achieves a 75% profit margin when assets reach $1 billion.\footnote{The Morningstar Direct database was screened for the universe of funds which invest in large capitalization stocks. On average, funds instilled breakpoints between about $1 billion and $1.5 billion in assets managed, which supports the assumption that a 75% profit margin at $1 billion in assets is roughly the point where funds are forced to reduce fees in order to stay under the 77% maximum profit margin established in Schuyt. Whether funds break even at $100 million or $50 million or instill breakpoints at $1 billion or $1.5 billion is irrelevant. The illustration is robust with respect to different assumptions.} The analysis is conducted over the range of $100 million to $1.5 billion of assets under management.

Panel A of Table 2 shows profit margins for selected points on the asset curve. It is assumed that profit margins are zero at breakeven; 75% when assets under management reach $1 billion; and 80% when assets reach $1.5 billion. Percentage costs move in the opposite direction: costs are 1% at breakeven, .25% at $1 billion in assets, and .2% when assets reach $1.5 billion.
Figure 1 graphs the relationship between assets under management and percentage costs of managing those assets over the whole range of output.
not just the selected points in Table 2. Visually, as assets increase percentage costs decrease, illustrating economies of scale.\textsuperscript{36}

![Figure 1 Costs v Assets](image)

The overall point is that it is impossible to achieve profit margins common in the investment management industry without simultaneously realizing economies of scale. The only caveat is the analysis must be limited to the costs of the investment management function in isolation. Other costs, i.e., distribution costs, must be strictly segregated from the analysis.

E. Activity-Based Cost Allocations

Calculating operating profit margins for individual funds in a multi-fund firm is complicated by cost allocation issues. Operating costs are the sum of direct and indirect costs. If the firm is managing more than one fund, a rational means must be found to allocate indirect costs to individual funds. Examples of indirect costs in a multiple fund investment management firm would include research department costs, compliance personnel, in-house lawyers, or corporate overhead.

In the investment management function, there will always be some direct costs. These may be measured in different ways and might include the number of people in the function, directly charged costs or the effort involved

\textsuperscript{36} Technically, economies of scale are measured by dividing the percentage change in costs by the percentage change in output. This is known as a scale factor. For instance, in the example between $100 million and $250 million of assets, costs increase by 75% and assets increase by 150%. Dividing 75% by 150% yields a scale factor of 50% which means that costs only increased by 50% as much as output (assets). In other words, the investment management function exhibited economies of scale.
in performing the function. Any one of these approaches could be utilized to assign indirect costs based on the direct costs involved in the investment management function.

Activity-based costing is one method of measuring the effort involved in performing the function. It assigns indirect costs based on time expended in different activities. It could involve extensive interviews, time sheets, or direct observation of the amount or percentage of time spent on various activities. Thus, it can be expensive to implement. However, it does allow a reasonably precise allocation of costs based on the effort expended in different activities.

F. Profit Margins and Asset-Based Cost Allocation

It was demonstrated above that the higher the level of profit margins, the greater economies of scale in the investment management function. In fee litigation, the Gartenberg factors require courts to look at both profit margins and economies of scale at the individual fund level. However, cost allocation issues intervene when the investment management firm manages more than one fund. Indirect costs must be allocated to individual funds in order to calculate margins and determine if economies of scale are being shared equitably.

For purposes of discussion it will be assumed that there are only two cost allocation choices: allocating indirect costs proportionate to direct costs or allocating indirect costs proportionate to assets under management.

Panel B of Table 2 shows profit margins on two funds when indirect costs are allocated proportionate to direct costs. It assumes that the fund in Panel A is really two funds with different assets, profit margins, and economies of scale. Fund A has $250 million of assets and a 30% profit margin. It is the smaller fund and less subject to economies of scale. Fund B has $1 billion of assets and a 30% profit margin. It is the larger fund and more subject to economies of scale.


38 There are different methods of calculating direct costs including activity-based costing discussed above.

39 Other cost allocation methods will be discussed below. These are either consistent with one of the two methods discussed here or may be rejected as failing to segregate costs properly.
assets and a profit margin of 75%. Observe that by allocating indirect costs proportionate to direct cost, profit margins and economies of scale are maintained as if the fund were a standalone fund. Notice also that the total cost of managing the two funds is the sum of the individual costs or $4.25 million.

Sometimes, instead of allocating indirect costs proportionate to direct costs, it is not unusual for investment management firms to allocate all costs proportionate to assets under management.\footnote{See, e.g., Chill v. Calamos Advisors LLC, 417 F. Supp. 3d, 208, 239 (S.D.N.Y. 2019) (A defense expert for Calamos testified that it is common for investment management firms to allocate all costs based on assets.).} This is illustrated in Panel C of Table 2. Fund A controls 20% of the total assets of the two funds and thus 20% of total costs of $4.25 million or $.85 million are allocated to it. This generates a profit margin of 66%, whereas as a standalone fund, its margin was 30%. On the other hand, Fund B with 80% of total assets gets 80% of the costs and its profit margin is also 66%, whereas as a standalone fund its margin was 75%.

There are several things to note about this. When all costs are allocated by assets the funds in question will have identical profit margins. These will differ significantly from the margins that would occur if they were standalone funds. Notice that in addition to distorting profit margins, asset-based cost allocation corrupts all ability to gauge economies of scale correctly. With identical profit margins it appears as though the two funds have identical economies of scale, but this cannot be true. The Gartenberg factors, affirmed by the Supreme Court in \textit{Harris}, specify that profitability and economies of scale must be examined for individual funds, not funds collectively.

The use of asset-based cost allocations illustrated above results in identical profit margins that are the asset weighted average of the profit margins of the individual funds. The greater the number of smaller funds involved, the smaller the weighted average profit margin. This means that investment management firms are incentivized to increase the number of funds offered in order to keep profit margins on large funds below the maximum permissible profit margin established in \textit{Schuyt}.

Panel D of Table 2 illustrates how this works. It assumes that the larger fund, Fund C, has $1.5 billion in assets and an 80% profit margin. However, when costs are allocated by assets its weighted average profit margin is only 72.9%. If the 80% profit number were presented to the board it is likely the board would require that the investment management firms institute breakpoints in the fee schedule in order to bring the margin below 77%. However, if the board accepts the profit margin calculated using asset-based cost allocation, then the investment management firm will continue to earn higher profits than if breakpoints were put in place. Investment management
firms are thus incentivized to maximize the number of funds offered to the public and to utilize asset-based cost allocation when presenting profitability and economies of scale reports to the board.

The allocation of all costs proportionate to assets under management may be an extreme case. However, essentially the same impact occurs on an attenuated basis if total costs are the sum of direct costs plus all indirect costs allocated proportionate to assets under management. This effect is well-known. A widely available white paper by Keil Fiduciary Strategies contains an example of indirect costs allocated in that manner and states: “a profitability analysis that relies heavily on asset-based allocations will tend to smooth margins across funds, with larger funds receiving a greater share of expense, therefore benefiting smaller funds that may be loss-makers.”

Allocating a larger share of expenses to larger funds would cause margins to be attenuated and thus allow fund sponsors to avoid fee decreases on large funds with high profit margins. In practice, the degree of attenuation or smoothing is an empirical issue and would depend on the proportion of indirect costs in total costs. A larger proportion would result in greater smoothing.

III. COST ALLOCATIONS IN PROFITABILITY CALCULATIONS

The Gartenberg factors always play a central role in mutual fund advisory fee litigation. Of these, the profitability of the fund and economies of scale realized by the investment manager play an important part. There are areas of confusion in case law involving cost allocations in profitability calculations. In this section we review three important cases, Gartenberg, Schuyt, and Krinsk, and discuss how the funds litigated in Gartenberg and Krinsk were anomalous and unrepresentative of funds in general. The anomalous nature of these funds and the concomitant cost allocations give rise to very wide profitability ranges. We then sort out areas of confusion associated with cost allocation methodology in the three cases. Much of the confusion is clarified by showing that the segregation of distribution and

42 The Keil calculations show direct costs averaging about 15% of total costs and indirect cost (allocated by assets) averaging about 85%. It follows that in practice margins calculated by allocating indirect costs by the proportion of assets under management should approximate those where all costs are allocated in that manner.
advisory costs recognized in Schuyt is appropriate and the mixing of these costs in Gartenberg and Krinsk muddies the analysis beyond repair. We then show how the industry improperly argues for the modification or elimination of the profitability and economies of scale factors by embracing the decisions in Gartenberg and Krinsk as representative of funds in general. Finally, we show how case law has confused fund directors as to the appropriate methodology of cost allocations in profitability and economies of scale calculations.

A. Three Cases

1. Gartenberg v. Merrill Lynch

The fund in Gartenberg, the Ready Assets Trust, was a very large money fund operated by Merrill Lynch. The industry astutely allowed this case to be brought to trial because the fund involved was anomalous. As discussed elsewhere, the fund was integrated with the Merrill Lynch brokerage system and the Gartenberg court allowed the costs associated with brokers handling money fund transactions as a cost of operating the fund. In all but a few funds in existence at the time the costs of such transactions would be covered by transfer agent or distribution contracts and thus segregated from advisory costs.

Merrill Lynch produced three studies bearing on the relative profitability of the fund it managed, showing profits to itself ranging from $15 million to a loss of nearly $7.8 million. The differences among the studies are explained by the differing cost allocation assumptions used in each report. As a result, the experts’ analysis of the advisers’ profitability ranged from a loss to about a positive 38%. With such a wide range of calculated profitability numbers,

45 Gartenberg v. Merrill Lynch Asset Mgmt., Inc., 528 F. Supp. 1038, 1044 (1981) (plaintiffs arguing unsuccessfully that the costs of servicing the contract “should not include the expense incurred by MLAM’s affiliate . . . . [S]uch expenses in reality should be considered as a cost of distribution of securities and in their view, the federal statute and regulations do not permit a mutual fund to pass along such an expense to the shareholders.”).
46 The cost differences involved estimates of the cost of broker’s time in processing orders for the fund. Such activities and costs are not present in the typical mutual fund. See id. at 1051 (discussing the most extensive cost study in Gartenberg conducted by Peat, Marwick, Mitchell & Co. (PMM): “PMM accountants visited a representative sample of Merrill Lynch branches all over the country and studied how much of their time was spent on Fund business.” Thus, Gartenberg used activity-based cost accounting to determine cost allocations of broker time spent on money fund matters.).
the *Gartenberg* court was unable to reach a judgment about the profitability of the fund earned by the defendant.

The anomalous processing costs also corrupted the analysis of economies of scale in *Gartenberg*:

That processing costs do not significantly diminish as Fund assets increase accords with logic and common sense. While it may be almost as easy to invest a block of $100 million as a block of $10 million, it requires substantially more time, money and personnel to process 1 million shareholder orders than 100,000 orders . . . . In any event, even if there do exist economies of scale, the present structure of MLAM’s fee means that its effective fee has decreased as the size of the Fund has grown.  

Thus, the court in *Gartenberg* was unable to establish an appropriate or acceptable level of profitability in § 36(b) cases. Similarly, the case left in doubt the existence of economies of scale.

2. *Schuyt v. T. Rowe Price*

The cost allocation approach used by T. Rowe Price, at issue in the *Schuyt* case, was based on a largely acceptable and defensible methodology. Consistent application of this standard in litigation would result in more standardized and comparable profit margins. Several aspects of the *Schuyt* decision are examined next.

a. *The Fund Used an Activity-Based Cost Allocation Process*

The fund in *Schuyt* allocated overhead costs based on time spent in the investment management process. Price Associates used a “full cost” or “full distributed cost” accounting system labeled the PLPS system.

Price Waterhouse also noted that the reasonableness of the PLPS output is dependent on the time estimates of employees and the assumptions underlying the system . . . . Labor costs represent almost 70% of [the Adviser’s] operating expenses. Accordingly, the overall reasonableness and utility of the financial information resulting from the operation of the PLPS, is dependent on the reasonableness and inherent precision of the mechanism used to assign labor costs to functions and products. [The Adviser] has

47 *Id.* at 1055.
developed a mechanism known as the "time matrix," which is used in the PLPS to identify and accumulate time spent by its employees in various functional activities in support of its seven products. The time matrix serves as a substitute for the detailed timecard or time sheet systems under which employees are required to track on an hourly or daily basis the activities to which they devote their time.\footnote{Schuyt v. Rowe Price Prime Rsrv. Fund, Inc., 663 F. Supp. 962, 967 n.15, 978 n.49 (S.D.N.Y. 1987).}

Based on this system, the court concluded “[n]otwithstanding the virtually impossible task of calculating Price Associate’s exact cost of servicing Prime Reserve Fund, the Court has examined the assumptions underlying the Adviser’s PLPS and has found them basically reasonable.”\footnote{Id. at 978, 978 n.49 (“The PLPS was developed under a full-cost concept that captures all costs that are directly associated with each product as well as an equitable share of indirect and corporate administrative expense. PLPS was reviewed by Price Waterhouse & Co. to assure that the major assumptions were adhered to and the mechanics of the revenue and expense allocations were sound.”).}

This is an important result. As was discussed above, alternative cost allocation methods recommended and ordinarily used by the industry involve significant and predictable distortions in reported profitability and corrupt the identification of economies of scale.

b. Distribution Costs were Excluded from Profitability Calculations

Section 12b of the ICA prohibited mutual funds from paying for the marketing and distribution of their shares.\footnote{Investment Company Act of 1940, 15 U.S.C. §§ 80a-1–80a-64 (1940). The prohibition was intended to mitigate a conflict of interest on the part of the fund adviser. Advisers are typically paid fees as a percentage of fund assets. If the fund (not the adviser) pays for marketing and distribution and the fund grows in size only by heightened marketing or other distribution efforts, the adviser reaps greater compensation by expending fund assets on distribution and marketing.} In 1980, the SEC created Rule 12b-1 to allow funds to pay for distribution under certain circumstances.\footnote{Stewart L. Brown, Mutual Funds and the Regulatory Capture of the SEC, 19 U. Pa. J. Bus. L. 701, 716 (2018). Essentially, Rule 12b-1 allows funds sponsors to tap the assets of existing customers in order to market the fund to new shareholders. In supporting Rule 12b-1, the industry argued that the newly acquired assets would cause overall fees to decrease because of economies of scale in the advisory function. Of course, these cost reductions never materialized.} It was explained to directors that the proposed Rule 12b-1 prohibited funds from using assets for distribution except pursuant to a plan approved by shareholders.\footnote{15 U.S.C. § 80a-15(a).} So, directors were to ensure that there was no indirect use of
fund assets to pay distribution expenses and that profitability should be determined first without consideration of sales and promotional expenses.53

Rule 12b-1 still mandates that fund profitability calculations be made on a pre-distribution basis. Distribution revenues and costs are thus normally separated from advisory revenues and costs when calculating fund profitability. This is the genesis of the statement to that effect in the MFDF Webinar presentation.

c. Schuyt Confirms the Unique Nature of Fund in Gartenberg

Schuyt listed as the fifth Gartenberg factor “the volume of orders that must be processed by the manager.”54 In a footnote, Schuyt states:

This factor does not apply in this case because Prime Reserve Fund is an independent fund, not a brokerage-operated fund. In the brokerage funds, the investor deals with his registered representative and is considered a customer of the brokerage house. In the independent funds, the investor deals primarily with a bank and tells the bank when to put money in and when to take money out. In this case, State Street Bank performed the order processing function for the Fund under a separate contract.55

The anomalous nature of the fund in Gartenberg has not been generally recognized in case law or the literature. The exception to this is an article by one of the authors.56 The Schuyt footnote is a useful confirmation of those insights.

3. Krinsk v. Merrill Lynch

The fund at issue in Krinsk,57 a suit against Merrill Lynch, was also a money fund. The CMA Fund was offered in conjunction with the Cash Management Program, similar to but more refined than the Merrill Lynch program in Gartenberg. The major difference between the programs was that the CMA Fund charged an explicit 12b-1 distribution fee of 12.5 basis points

53 CLIFFORD J. ALEXANDER & ARTHUR C. DELIBERT, INV. MGMT. COMPLIANCE GUIDE § 623 (June 2018 Supp.).
55 Id. at 973 n.36.
of which 11 basis points was paid directly to brokers for their efforts on behalf of the fund.58

Apparently, the directors in *Krinsk* were not aware of or chose to ignore the requirement in Rule 12b-1 that distribution revenues and costs be segregated from advisory revenues and costs in profitability calculations: “[T]he Trustees evaluated the fairness of the advisory fee in light of costs and benefits of the CMA program as a whole, not simply MLAM’s management of the Fund.”59

The *Krinsk* court was aware that the fund involved was anomalous. Despite this, the court looked at the profitability of the CMA program rather than the CMA Fund:

This suit differs from those brought in this Court under § 36(b) on prior occasions. For the first time, the Court is presented with a challenge to fees paid by a fund embedded in a central asset account. As noted earlier, all parties agree that the Fund cannot be viewed separately from the other program components. While the Court agrees with this view, it is also mindful that the issue before it is whether Merrill Lynch, and specifically MLAM, breached its fiduciary duty to the Fund alone in its receipt of the advisory fee.60

As in *Gartenberg*, the *Krinsk* court was unable to establish a unique profitability number and had to settle for a range of possible outcomes. The main issue of contention involved the allocation of distribution costs between the money fund and Merrill Lynch brokerage operations.61

The average annual profitability for 1984 to 1986 estimated by plaintiff was 40.4% . . . . Defendants estimated average profitability for the same period to be -32.7% . . . . After having reviewed carefully the exhibits and the testimony relating to each of the profitability issues raised at trial, the Court concludes that a true profitability

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59 *Id.* at 481. It is of interest to note that “[t]he Trustees were especially concerned with promoting the CMA program as a whole. Trustee Lenagh frankly stated: ‘I am more concerned about the CMA program than I am about the CMA money fund . . . .’” *Id.* at 483. This is a telling remark. The money fund trustees were most concerned about a Merrill Lynch program which included the fund at issue than they were about looking out for the interests of fund shareholders.
60 *Id.* at 486.
61 *Id.* Footnote 13 of the case makes clear that trustees had reports that separated investment management and distribution costs and profits but chose to ignore it. *Id.* at 480 n.13.
figure for the fee based side of the CMA program was probably less than plaintiff’s estimate, but greater than the figure defendants urge . . . [T]he Court concludes that a true figure for a three-year weighted average of pre-tax profitability would probably fall in a range from at least a few percentage points greater than 0% to perhaps as much as 33%.\textsuperscript{62}

It bears repeating that the reason the \textit{Krinsk} court was unable to arrive at a unique profitability number was due to cost allocation issues involved in non-advisory activities, i.e., distribution costs. Merrill Lynch failed to segregate advisory and distribution costs as required by Rule 12b-1 and the court allowed this.

As with profitability calculations, the inclusion of non-advisory costs corrupted the analysis of economies of scale and masked their existence.

Plaintiff’s evidence . . . express fee based expenses as a percentage of fee based revenues . . . [and] purport to show that this percentage decreased from 1984 to 1986 . . . These exhibits are inconclusive . . . [P]laintiff’s exhibits fail to demonstrate that the per unit cost of Fund transactions, such as VISA purchases, decreases as the number of units increases . . . [T]he Court . . . finds that merely because the ratio of fee based expenses to fee based revenues declined at a time when the Fund size grew, that fact does not establish that such a decline was necessarily due to economies of scale.\textsuperscript{63}

\textbf{B. The Industry Position on Fund Profitability in Fee Litigation}

The mutual fund industry has been consistent in denouncing the value of profitability calculations in fee litigation. In an amicus brief in \textit{Jones},\textsuperscript{64} the Investment Company Institute (\textquotedblrightICI\textquotedblright)\textsuperscript{65} came down squarely in favor of the

\textsuperscript{62} \textit{Id.} at 494.
\textsuperscript{63} \textit{Id.} at 496.
\textsuperscript{65} The ICI lists as one of its core missions “advancing the interests of investment companies and their shareholders, directors, and investment advisers.” \textit{Id.} at *1.
Gartenberg standard, but in opposition to consideration of profitability (despite that profitability had long been an oft-cited Gartenberg factor):

[T]he profit that an adviser earns from managing a particular fund – although mentioned in the Gartenberg decision – has been of limited use in evaluating whether advisory fees are excessive . . . Calculating the profitability of a single fund in a multiple-fund complex is enormously complicated and is especially difficult when, as is often the case, an adviser provides multiple services to a fund and the exact allocation of payments to each function is uncertain, or when advisory services to the fund are only one element of a larger financial product or package of financial services offered by an adviser or its affiliates. See, e.g., Krinsk v. Fund Asset Mgmt., Inc., 715 F. Supp. 472, 489 (S.D.N.Y. 1988), aff’d, 875 F.2d 404 (2d Cir. 1989) (“Calculation and allocation of costs against different product lines or, in this case, among different segments of the same product, is an art rather than a science. Little certainty exists in this field where different, albeit rational, methodologies lead to widely disparate results.”).

Like the ICI, Fidelity Management likewise criticized the value of profitability calculations in fee litigation:

These [cost] allocations are “an art rather than a science” (Krinsk, 715 F. Supp. at 489), with the range of reasonable allocations being large. In consequence, allocated cost and profit data - inevitably at the heart of plaintiffs’ proposed comparison - has very little economic meaning and should have no role in Section 36(b) litigation.

Similarly, two well-known attorneys who represent investment advisors in fee litigation have made similar statements concerning the use of profitability calculations in fee litigation. In a 2012 article, they advanced the industry argument that “[c]ost allocations typically can be performed using any number of different reasonable methodologies, but the methodology

66 “ICI’s experience is that the standard set forth in Gartenberg v. Merrill Lynch Asset Mgmt., Inc., 694 F.2d 923 (2d Cir. 1982), especially as implemented in subsequent cases, represents the appropriate approach to judicial review of adviser compensation and is consistent with Congress’s objectives in enacting the 1970 amendments to the ICA.” Id. at *2.
67 Id. at *11, *11 n.4.
chosen may have a material impact on the resulting profit figures.”

They then explain that different advisers use different methods on different categories of costs,

such as assets under management for portfolio management expenses, and number of shareholders for servicing and administrative expenses. Still other advisers have developed so-called “activity-based” cost accounting systems that attempt to measure the level of use of certain resources by individual funds – for example, by tracking investor calls or website activity, or by requiring advisory personnel to complete time surveys or track their time in other ways.

Note how the authors freely co-mingle advisory and non-advisory activities in making their arguments. In doing so, they fail to recognize the requirement that fund profitability be presented on a pre-distribution basis. The intermingling of advisory, distribution and other activities was the cause of the wide range of profit margins in Krinsk, which they cite freely as supporting the position that individual fund profitability should be removed as a factor in fee litigation.

C. Some Clarity on Cost Allocations Methodology

Skepticism about the accuracy and variability of profitability calculations has been expressed by academics, including Cox and Payne, who noted that:

Merrill Lynch in Gartenberg produced three studies bearing on the relative profitability of the fund managed by it with profits to itself ranging from $15 million to a loss of nearly $7.8 million; the differences among the studies are explained by the differing cost allocation assumptions used in each report. Other unsuccessful assaults on advisory fees have also fallen prey to the difficult revenue and expense allocation problems faced by the plaintiff.

In support of this statement, they state that in Krinsk, “plaintiff”s expert testified that manager earned profits of $47.5 million, defendant’s expert testified the adviser suffered a $77 million loss,

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69 Sean M. Murphy & James G. Cavoli, Fund Profitability in Mutual Fund Fee Litigation, 45 REV. SEC. & COMMODITIES REGUL. 81, 82 (2012).
70 Id. at 85.
71 Id. at 84–88.
and the court essentially split the difference between the widely varying estimates to dismiss the suit.”

The skepticism about profitability calculations hinges largely on a misconception. The cases that show very large variability in profitability calculations, Gartenberg and Krinsk, do so because of the inclusion and variability of non-advisory costs in profitability calculations. Gartenberg included broker processing costs and Krinsk included certain distribution costs separate from 12b-1 fees. But Rule 12b-1 specifically mandates that profitability be calculated on a pre-distribution basis. Without the anomalous costs involved in Gartenberg and Krinsk, the extreme variability of profit calculations disappears. The Schuyt court, in contrast, was better able to identify and calculate a defensible profitability number.

The upshot of these insights is that there are actually two cost allocation issues that have been confused in the case law and the legal and regulatory literature. The first, cost segregation, is easily handled by enforcing the Rule 12b-1 requirement that advisory profits exclude all distribution and marketing activities. The problem becomes more manageable once cost allocation issues are restricted to the methodology used to allocate indirect costs in profitability calculations.

The second cost allocation issue occurs because under current legal, regulatory, and accounting guidelines, the cost allocation methods used to allocate indirect costs are determined at the discretion of the investment management firm under the umbrella of managerial accounting, which is typically used for internal management decisions. While there may be a range of potential methodologies in use, we argue in this paper that not all otherwise accepted managerial accounting methodologies are appropriate for use with mutual funds.

For example, a Mutual Fund Directors Forum Webinar listed possible methodologies for determining fund level cost allocations. They include:

- Directly Charged (fund specific)
- Average Assets
- Revenue (assets * management fees)
- Effort (implies time tracking)
- Square Footage (occupancy)
- Fund Flows
- Trade Execution
- Number of People

73 Id. at 924 n.82.
Two of the eight methods listed would produce acceptable results: Directly Charged (fund specific) and Effort (implies time tracking). These two would produce profitability calculations consistent with the Schuylt methodology and would also reveal differential economies of scale consistent with these numbers.

Average Assets and Revenue (assets * management fees) would produce profitability numbers somewhat consistent with the underlying economics of investment management. However, as demonstrated in Table 2 above, assets-based (and revenue-based) cost allocations have a tendency to equalize profitability calculations among the funds involved and present a distorted view of economies of scale.

The remaining four possible cost allocation methods utilize factors that are basically unrelated to the economics of investment management and would produce profitability numbers inconsistent with the Schuylt methodology.

Given that the decisions in Gartenberg, Krinsk, and subsequent cases so confuse these issues, directors would do well not to depend on the judicial system, at least in the near term, for conclusive guidance on what constitutes a reasonable cost allocation methodology. In this paper, we will explain why fund directors can and should require the specific cost allocation method in Schuylt to be utilized in the complexes they oversee.

D. Summary

The § 15(c) process requires fund directors to examine individual fund profitability exclusive of distribution fees and costs. In addition, directors must determine if fund management is sharing economies of scale equitably.

As demonstrated above, profitability calculations, economies of scale, and cost allocations are mathematically intertwined. The most important insight was that profit margins on the investment management function are positively related to economies of scale. As economies of scale are realized, i.e. as costs as a percentage of assets decrease, profit margins increase. It is an empirical fact that operating profit margins in the range of 50 to 70% are the norm in the mutual fund investment advisory function. It follows that economies of scale are the norm in the advisory function.

Cost allocation methodologies impact profitability calculations. It is widely believed that different but acceptable cost allocation methodologies can yield widely different profitability numbers. These beliefs are an artifact of judicial precedents, where courts mixed order processing or distribution costs with advisory activities to produce widely different profitability
numbers. Rule 12b-1 requires that advisory costs be segregated from distribution costs and this is the norm in the industry.

The cost allocation method employed in Schuyt utilized a cost allocation method consistent with measuring direct costs in the investment management function. As a result, it properly maintained the relationship between profitability and economies of scale.

Some mutual fund investment management firms allocate indirect costs in profitability calculations using the assets of the funds involved. This tends to equalize profitability among the funds in the complex and to distort the proper recognition of economies of scale. Moreover, calculating profitability using asset-based cost allocations may allow investment managers to report lower profits on its larger funds and thus avoid having to report accurate profitability numbers in § 15(c) reports. Thus, fund directors would not insist on lowering fees on larger funds.

These are two big conclusions to be reached from the foregoing analysis. First, although there are a multitude of potential cost allocation methods, there really are very few methods acceptable for use in the context of examining profitability on an advisory contract. Consistent with the method used in Schuyt, profits should be measured allocating indirect costs proportionate to direct costs. This maintains the relationship between profitability and economies of scale and does not distort profitability numbers based on other funds in the complex.

Second, although this is an area where directors should be especially vigilant, given a fund sponsor’s incentive to understate profitability, to date profitability methodologies appear to have avoided meaningful scrutiny. If directors are to properly fulfill their duties, they must have profitability numbers calculated accurately and consistent with Schuyt. It is possible for directors to be duped into maintaining fee levels on large funds because of asset-based cost allocation methods.

IV. HISTORICAL CONTEXT OF MUTUAL FUND ADVISORY FEES

In a recent article, the authors used the Morningstar Direct database to look at mutual fund expenses over the 2005 to 2015 time period. Our principal findings were that overall expenses as measured by the Total Expense Ratio (TER) decreased during this period because two of its three components decreased: percentage distribution fees and percentage administrative fees. However, it was somewhat surprising that percentage advisory fees were essentially unchanged while the level of actively managed

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open-end mutual fund assets more than doubled over the period.\textsuperscript{76} Substantial increases in assets coupled with the known economies of scale in the advisory function should have resulted in overall declines on percentage advisory fees. In this section we conduct a similar analysis over a much-expanded time period and drill down into analysis of advisory fees over time.


Panel A of Table 3 presents summary statistics for the universe of actively managed open-end funds for the 23-year period from 1995 to 2018.\textsuperscript{77} Actively managed assets increased from about $1.5 trillion to about $11.4 trillion, a 668\% increase. Over the same period, the asset weighted Total Expense Ratio (TER) declined from about 99 basis points to about 71 basis points, a percentage decline of about 29\%.

\textsuperscript{76} Id.
\textsuperscript{77} The analysis period begins in 1995 because that is the earliest period for which the Morningstar Direct database has compiled statistics. The universe examined excludes money market funds and fund of funds.
Table 3
Selected Statistics: Universe of Actively Managed Open End Funds 1995-2018*

Panel A: Changes in Assets, Expense Categories and Numbers of Funds.

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>2018</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assets ($billions)</td>
<td>1,491</td>
<td>11,452</td>
<td>9,961</td>
<td>668%</td>
</tr>
<tr>
<td>Weighted Avg Total Expenses (bps)</td>
<td>99.1</td>
<td>70.8</td>
<td>(28.3)</td>
<td>-28.6%</td>
</tr>
<tr>
<td>Weighted Avg Advisory Fees (bps)</td>
<td>53.6</td>
<td>49.3</td>
<td>(4.3)</td>
<td>-8.0%</td>
</tr>
<tr>
<td>Weighted Avg Admin Fees (bps)</td>
<td>26.8</td>
<td>13.0</td>
<td>(13.8)</td>
<td>-51.5%</td>
</tr>
<tr>
<td>Weighted Avg Distribution Fees (bps)</td>
<td>18.6</td>
<td>8.4</td>
<td>(10.2)</td>
<td>-54.7%</td>
</tr>
<tr>
<td>Number of Funds</td>
<td>3,045</td>
<td>6,512</td>
<td>3,467</td>
<td>113.9%</td>
</tr>
<tr>
<td>Number of Equity Funds</td>
<td>1,394</td>
<td>3,620</td>
<td>2,226</td>
<td>159.7%</td>
</tr>
<tr>
<td>Fixed Income Funds</td>
<td>1,402</td>
<td>1,850</td>
<td>448</td>
<td>32.0%</td>
</tr>
<tr>
<td>Other Categories</td>
<td>249</td>
<td>1,042</td>
<td>793</td>
<td>318.5%</td>
</tr>
</tbody>
</table>

Panel B: Detail of Advisory Fees Changes 1995-2018

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>2018</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exiting Funds</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Assets ($billions)</td>
<td>402</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advisory Fees (bps)</td>
<td>57.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Funds</td>
<td>1,532</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Assets ($billions)</td>
<td>0.26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Funds</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Assets ($billions)</td>
<td>5,333</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advisory Fees (bps)</td>
<td>57.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Funds</td>
<td>4,999</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Assets ($billions)</td>
<td>1.07</td>
<td></td>
<td></td>
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<tr>
<td>Surviving Funds</td>
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</tr>
<tr>
<td>Assets ($billions)</td>
<td>1,089</td>
<td>6,120</td>
<td>5,031</td>
<td>462%</td>
</tr>
<tr>
<td>Advisory Fees (bps)</td>
<td>52.1</td>
<td>41.9</td>
<td>-10.2</td>
<td>-19.6%</td>
</tr>
<tr>
<td>Number of Funds</td>
<td>1,513</td>
<td>1,513</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Average Assets ($billions)</td>
<td>0.72</td>
<td>4.04</td>
<td>3.33</td>
<td>462.0%</td>
</tr>
<tr>
<td>Overall Totals</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Assets ($billions)</td>
<td>1,491</td>
<td>11,453</td>
<td>9,962</td>
<td>668%</td>
</tr>
<tr>
<td>Advisory Fees (bps)</td>
<td>53.6</td>
<td>49.3</td>
<td>(4.3)</td>
<td>-8.0%</td>
</tr>
<tr>
<td>Number of Funds</td>
<td>3,045</td>
<td>6,512</td>
<td>3,467</td>
<td>114%</td>
</tr>
<tr>
<td>Average Assets ($billions)</td>
<td>0.49</td>
<td>1.76</td>
<td>1.27</td>
<td>259%</td>
</tr>
</tbody>
</table>

* Excludes Money Market Funds & Fund of Funds
The TER is the sum of three components: advisory fees, administrative fees, and distribution fees. Figure 1 graphs the changes in these three factors over the period. Visually, the TER declined, advisory fees were essentially flat, while administrative and distribution fees declined materially.

In Table 3, the components of the TER are analyzed separately. Although assets under management increased by approximately 670%, advisory fees declined by only 4.3 basis points or about 8 percent, from 53.6 basis points to 49.3 basis points. This is far less than the overall decrease in total expenses and far less than expected for a function known to exhibit economies of scale.

Revenues to mutual fund management firms are the product of assets under management and advisory fees. Thus, fund sponsors profit from increases in assets managed and are incentivized to maintain high advisory fee rates. In context, industry revenue from advisory services on actively managed open-end funds in 1995 was the product of 53.6 basis points times $1.491 trillion, or about $8 billion. By 2018 assets increased to about $11.4 trillion and in combination the 49.3 basis point average advisory fee generated about $56.5 billion in revenues. Thus, revenues closely tracked assets managed by the industry. If advisory fee rates had been maintained at a constant 53.6 basis points, industry revenue would have been about $5 billion greater. While assets have grown by 670%, advisory fee revenue has grown by about 600% (from $8 to $56.5 billion). Thus, small increments of advisory fee changes have a major impact on industry revenues, and this reinforces the notion that the industry is incentivized to maintain advisory fee rates.
Administrative fees are fees paid to various services providers. These include transfer agent, custodial, legal, and other smaller fees. Administrative fees declined substantially between 1995 and 2018, falling from a weighted average of 26.8 basis points to 13 basis points, a 51.5% decline. Comparable to the above calculations, administrative fee revenue has only increased by 272% and distribution fee revenue has increased by 248%, all while advisory fee revenue has increased by about 600%.

The substantial decline in administrative fees was probably caused by competitive forces. Typically, service providers for larger fund families are subsidiaries of the investment management firm or parent company. However, SEC rules require that such fees be fair and reasonable and such fees may be subject to the fiduciary standards of § 36(b).

Similarly, distribution fees declined substantially between 1995 and 2018. Distribution fees averaged 18.6 basis points in 1995 but declined to 8.4 basis points in 2018, a 54.7% decline. These numbers indicate that over time investors have become more sensitive to distribution fees and increasingly avoid funds that impose such charges.

Administration and distribution fees are collected by the funds but paid to outside entities other than the fund sponsor. It is striking that these categories exhibit such sensitivity to increases in assets levels while advisory fees do not. The advisory function is subject to economies of scale and margins increase with an increase in assets. Increased margins eventually push up against the Schuyt profit margin ceiling at which point fund boards should force the installation of breakpoints in the fee schedule. Of course, funds sponsors are incentivized to avoid this because lower fees reduce revenue.

It is therefore of interest to explore how the investment management industry was able to maintain the high levels of advisory fees in a period in which assets increased by almost 700%. The answer we propose is contained in the title of this paper: fund sponsors have gamed the system. Specifically, the industry has used inappropriate cost allocation methods to attenuate

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margin increases and thus avoid fee reductions caused by the Schuyt cap on margins. The remainder of Table 3 contains clues as to how this is accomplished.

Recall from the analysis in Table 2 that margins are reduced when costs are allocated based on assets rather than direct costs. The analysis paired a small fund with a larger fund where the margin on the larger fund was near the margin cap. The result of using assets to allocate costs was that the margins of the two funds were equal and the weighted average of the individual margins. It was noted that if there were more funds involved margins would be lower still.

The lower part of Panel A shows that the number of funds offered by the investment management industry more than doubled over the period, from about 3,000 funds to about 6,500 funds. The increase in funds would facilitate the use of cost allocation strategies to minimize required fee reductions on large funds. Moreover, the number of equity funds increased by about 160%. This is significant because the evidence from the MFDF in Table 1 is that the highest margins, about 70%, are achieved on equity funds. The lowest margins are on fixed income funds, and the number of fixed income funds increased by only 32% over the period.

In summary, Panel A demonstrates that the investment management industry was able to mitigate fee reduction over the 23-year period from 1995 to 2018 despite an increase in assets of almost 700%. Administration and Distribution fees fell dramatically in percentage terms while advisory fees fell only about 8 percent. One explanation for this outcome is that the investment management industry mitigated fee decreases by using asset-based cost allocation methods. The dramatic increase in the number of funds, especially equity funds, supports this inference.

B. Analysis of Advisory Fee Changes 1995–2018

The composition of actively managed funds changed over the period of analysis. Some funds ceased trading for various reasons and new funds entered the system. Most often funds which cease trading are merged with existing funds. There were many funds that traded over the whole period and experienced substantial increases in assets managed. Details of these changes are presented in Panel B of Table 3.

Funds with $402 billion worth of assets in 1995 exited the system before 2018. There were 1,532 of these funds in which assets averaged $260 million and weighted average fees were 57.8 basis points in 1995. Exiting funds were generally small with fees greater than the overall average in 1995.

79 Most often funds which cease trading are merged with existing funds.
There were 4,999 new funds entering with assets of $5.33 trillion in 2018. Weighted average fees were 57.9 basis points, slightly higher than fees on exited funds. On average, newly created funds had average assets of about $1 billion in 2018. While it seems reasonable that the funds that exited had higher fees, it is a fact that new funds also had higher fees that have helped keep the overall average at original levels.

Assets of the surviving funds grew from about $1 trillion in assets to about $6 trillion, an increase of about $5 trillion or 462%. There were 1,513 funds in this category and the average funds grew from about $720 million to $4 billion over the period. Weighted average advisory fees fell from 52.1 basis points to 41.9, a 10.2 basis point or a 19.6% decrease. The decrease in weighted average advisory fees on surviving funds was still far less than the percentage decrease in administrative and distribution fees which fell more than 50% each. The most likely cause of the decreases that did occur was economies of scale that forced profit margins near the margin cap set in Schuyt.

Overall weighted average advisory fees fell only 8 percent as newly created and smaller funds with relatively high fees blunted the decrease in fees on surviving funds. Over the 23-year period the average fund grew from about $490 million $1.76 billion, a 259% increase. This was less than half the overall percentage increase in assets managed by the industry.

For advisory revenue to decline by an amount consistent with the other fee components would have required a more significant decline in the advisory fee of the surviving funds in the light of their increase in assets. In other words, advisory fees would have declined by more had they been subject to the same competitive forces as other fee components. It is through the misapplication of Schuyt that advisory fees have been held otherwise artificially higher. As we will show, this misapplication is directly related to cost allocation methodologies which inappropriately give rise to the stunted decline.

This is not the only evidence of a disconnect between asset growth and advisory fees. Burton Malkiel, a well-known Princeton economics professor, published a paper reaching similar conclusions. He found that:

From 1980 to 2006, the financial services sector of the United States economy grew from 4.9 percent to 8.3 percent of GDP. A substantial share of that increase was comprised of increases in fees paid for asset management . . . . In the presence of widely recognized substantial economies of scale entailed in the asset-management

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business. . . the scale economies in asset management appear to have been entirely captured by the asset managers.\textsuperscript{81}

V. EMPIRICAL EVIDENCE

The main thesis of this paper is that the investment management industry has gamed the system by using cost allocation methodologies that enable it to maintain high fees on large funds and thus blunt the impact of economies of scale on profit margins reported to the board of directors. Of necessity, some of the evidence is circumstantial because § 15(c) reports presented to independent directors are confidential and unavailable to the public. However, the published policies of two large fund complexes offer compelling evidence that asset-based cost allocation methods are in use. The overall conclusion is that inappropriate cost allocation methodologies are common in the industry and perhaps pervasive.

We proceed from the general to the specific. First, we articulate the assumptions underpinning the analysis. Next, we look at the fees and assets of the 10 largest mutual fund complexes as of December 2018. We then drill down into the policies of two large complexes (Fidelity and T. Rowe Price) that control roughly 19\% of actively managed equity mutual fund assets. The conclusions of the analysis are made compelling by contrasting the fees and assets of two other large complexes, Vanguard and American Funds, which impose pricing policies consistent with sizeable economies of scale.

A. Assumptions Underpinning the Analysis

We assume that investment management firms maximize profits for owners subject to legal constraints. The legal constraints are codified in § 36(b), which makes investment management firms fiduciaries with respect to fees charged captive mutual funds.

Investment management firms maximize profits by charging the highest advisory fees possible while maintaining profit margins reported to the board of directors at levels consistent with judicially approved maximum profit levels. Investment management firms are currently permitted wide latitude in the cost allocation methodologies used to report profits. It is here argued that the most appropriate cost allocation methodologies are those that allocate indirect costs proportionate to direct costs associated with each fund. This procedure, consistent with the methodology used in Schuyt, gives fund directors an unmuddied view of the economies of scale associated with each fund.

\textsuperscript{81} Id. at 97, 99.
Firms thus maximize profits by maximizing fees subject to profit margin constraints. The degree of constraint depends on the vigilance of the board of directors. The independent directors of mutual funds are “watchdogs” looking out for the interests of fund shareholders. Vigilant boards insist on cost allocation methodologies consistent with case law and have a clear view of economies of scale. This protects funds shareholders from being overcharged in advisory fees. Independent directors that uncritically allow investment management firms to use inappropriate cost allocation methodologies are complicit in the overcharging of mutual fund investors.

B. Overview of the Ten Largest Fund Complexes—2018

Table 4 details the assets and fees of the ten largest mutual fund complexes as of December 2018. These data are for actively managed funds and exclude money market funds. Panel A ranks the complexes by total active assets and Panel B ranks by actively managed equity assets.
Table 4
Assets and Fees of 10 Largest Fund Complexes 2018

Panel A: Ranked by Total Assets Managed 2018

<table>
<thead>
<tr>
<th>Fund Complex</th>
<th>2018 Assets ($billions)</th>
<th>Percent of Total Assets</th>
<th>Weighted Average Advisory Fees</th>
<th>Number of Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Funds</td>
<td>1,554</td>
<td>13.6%</td>
<td>0.299</td>
<td>35</td>
</tr>
<tr>
<td>Fidelity</td>
<td>1,142</td>
<td>10.0%</td>
<td>0.516</td>
<td>266</td>
</tr>
<tr>
<td>Vanguard</td>
<td>985</td>
<td>8.6%</td>
<td>0.082</td>
<td>62</td>
</tr>
<tr>
<td>T. Rowe Price</td>
<td>573</td>
<td>5.0%</td>
<td>0.581</td>
<td>111</td>
</tr>
<tr>
<td>PIMCO</td>
<td>373</td>
<td>3.3%</td>
<td>0.272</td>
<td>90</td>
</tr>
<tr>
<td>Franklin Templeton</td>
<td>368</td>
<td>3.2%</td>
<td>0.526</td>
<td>106</td>
</tr>
<tr>
<td>Invesco</td>
<td>338</td>
<td>3.0%</td>
<td>0.592</td>
<td>145</td>
</tr>
<tr>
<td>Dimensional Fund Advisers</td>
<td>317</td>
<td>2.8%</td>
<td>0.311</td>
<td>76</td>
</tr>
<tr>
<td>JPMorgan</td>
<td>264</td>
<td>2.3%</td>
<td>0.487</td>
<td>91</td>
</tr>
<tr>
<td>BlackRock</td>
<td>230</td>
<td>2.0%</td>
<td>0.493</td>
<td>104</td>
</tr>
</tbody>
</table>

All Actively Managed Mutual Funds 11,452  0.493  6,512

Panel B: Ranked by Total Equity Assets 2018

<table>
<thead>
<tr>
<th>Fund Complex</th>
<th>Equity Assets ($billions)</th>
<th>Percent of Equity Assets</th>
<th>Weighted Average Advisory Fees</th>
<th>Number of Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Funds</td>
<td>1,051</td>
<td>16.0%</td>
<td>0.329</td>
<td>15</td>
</tr>
<tr>
<td>Fidelity</td>
<td>815</td>
<td>12.4%</td>
<td>0.562</td>
<td>190</td>
</tr>
<tr>
<td>Vanguard</td>
<td>436</td>
<td>6.6%</td>
<td>0.149</td>
<td>29</td>
</tr>
<tr>
<td>T. Rowe Price</td>
<td>424</td>
<td>6.5%</td>
<td>0.622</td>
<td>64</td>
</tr>
<tr>
<td>Dimensional Fund Advisers</td>
<td>254</td>
<td>3.9%</td>
<td>0.340</td>
<td>49</td>
</tr>
<tr>
<td>Invesco</td>
<td>229</td>
<td>3.5%</td>
<td>0.622</td>
<td>73</td>
</tr>
<tr>
<td>MFS</td>
<td>179</td>
<td>2.7%</td>
<td>0.578</td>
<td>35</td>
</tr>
<tr>
<td>JPMorgan</td>
<td>168</td>
<td>2.6%</td>
<td>0.542</td>
<td>45</td>
</tr>
<tr>
<td>Dodge &amp; Cox</td>
<td>141</td>
<td>2.1%</td>
<td>0.555</td>
<td>3</td>
</tr>
<tr>
<td>Franklin Templeton</td>
<td>129</td>
<td>2.0%</td>
<td>0.636</td>
<td>44</td>
</tr>
</tbody>
</table>

All Actively Managed Equity Funds 6,578  0.555  3,611
The single largest fund complex is American Funds. The investment manager for these funds is Capital Group, a privately held corporation. American Funds had about $1.5 trillion of total assets and $1 trillion of equity assets as of December 2018. One notable thing about American Funds is how few funds they offer, 35 total and 15 equity funds. This means that on average, American Funds are very large. Indeed, the single largest fund offered in December 2018 was the Growth Fund of America with about $186 billion in assets. It is also notable that the weighted average advisory fees on American Funds are among the lowest, about 30 basis points on average.

The Vanguard Group of funds are unique. Vanguard is a mutual organization and services are provided at cost. This gives rise to some interesting comparisons. All of Vanguard’s actively managed funds are sub-advised and sub-advisory fees are passed along to shareholders with no mark-ups. This explains why advisory fees on Vanguard funds are the lowest among all fund complexes listed in Table 4. Unlike other complexes, Vanguard’s advisory fees are the result of arm’s-length bargaining. Moreover, the investment management firms that provide these services are for profit organizations so it can be assumed that a normal/competitive profit margin is built into the sub-advisory fees, as the sub-advisors would not otherwise provide the service. 82

As will be discussed in detail below, Fidelity and T. Rowe Price funds use asset-based cost allocation methods. Collectively these two complexes manage 15% of all actively managed mutual fund assets and just under 19% of actively managed equity assets. 83 Despite their large size, both exhibit above average advisory fees. It is also telling that both complexes offer large numbers of funds—Fidelity with the most, 266 funds, and T. Rowe Price with the third most, 111 funds.

82 Both PIMCO and Dimensional Fund Advisers are unusual. PIMCO primarily offers fixed income funds which typically carry lower fees than equity funds and Dimensional Fund Advisers does not sell directly to the public. These details explain the low average fees in Panel A charged by these firms.

83 In addition, in 2014, AXA Equitable Life Insurance Company offered about $117 billion of mutual funds in a variable annuity wrapper that allocated corporate overhead costs based on fund revenue. This has a similar impact as allocation of funds based on assets. Sivolella v. AXA Equitable Life Ins. Co., No. 11-cv-4194, 2016 WL 4487857, at *47, *52 (D.N.J. Aug. 25, 2016). Moreover, Metropolitan West Asset Management does not calculate profit margins on individual funds in 15(c) reports. Rather these reports “encompass all the MetWest Funds.” Kennis v. Metro. West Asset Mgmt., LLC, No. CV 15-8162-GW, 2019 WL 4010747, at *14 (C.D. Cal. July 9, 2019). This procedure is the financial equivalent of allocating costs based solely on assets. Id. at *11.
In Panel A, six of the ten largest fund complexes display weighted average advisory fees near or above the overall weighted average fee. Similarly, in Panel B seven of the top ten equity fund complexes exhibit weighted average advisory fees near or above the weighted average. This is a curious result. In a function known to exhibit economies of scale, large fund complexes should display lower than average advisory fees, but this is not the case.

Next, we show that Fidelity and T. Rowe Price use asset-based cost allocation methods. We accomplish this by demonstrating that advisory fees on individual funds are determined based on group assets, not individual fund assets. If fees are based on group assets, it follows that when calculating profit margins on an individual fund, costs are also based on group assets. In what follows, we identify a large fund from each complex and compare and contrast fees and assets with similar American and Vanguard Funds. These comparisons reveal stark differences in fees charged and implied costs.

C. Fidelity, Vanguard, and American Funds: A Three Fund Comparison

In December of 2018, the largest Fidelity fund by assets was the Contrafund with $126 billion. The overall largest fund was the American Funds Growth Fund of America with $186 billion and the Vanguard Primecap Fund with $65 billion in assets. Morningstar classified these funds as Large Cap Growth Funds and all were offered over the 1995 to 2018 time period. Panel A of Table 5 presents summary asset and fee data for the period and analyzes changes.

All three funds experienced very significant increases in assets over the 1995 to 2018 period. The Vanguard Primecap Fund grew from about $2.6 billion to about $65 billion, a 2,400% increase. The Growth Fund of America grew about 2,600% from $6.7 billion to $186 billion and the Fidelity Contrafund grew from $11.7 billion to $126 billion, a 983% increase.

Figure 3 is a graphical representation of the advisory fees over the period. The three funds had very different fee levels and changes. These are based on very different approaches to setting fees and these will be discussed for each fund.
<table>
<thead>
<tr>
<th>Panel B: T. Rowe Price, Vanguard and American Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
</tr>
<tr>
<td>2.59</td>
</tr>
<tr>
<td>3.22</td>
</tr>
<tr>
<td>2.41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Advisory Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vanguard Primecap Fund</td>
</tr>
<tr>
<td>American Funds AMCAP Fund®</td>
</tr>
<tr>
<td>T. Rowe Price Growth Stock Fund</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Actively Managed Funds in Complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vanguard Funds</td>
</tr>
<tr>
<td>American Funds</td>
</tr>
<tr>
<td>T. Rowe Price Funds</td>
</tr>
</tbody>
</table>
1. **American Funds Growth Fund of America**

From the materials and information available to the authors, American Funds and the board of Growth Fund of America have rightfully taken measures to ensure that asset growth is accompanied with a decline in advisory fees, reflecting the sponsor’s savings through economies of scale. The Statement of Additional Information (SAI hereinafter) for the fund presents a fee schedule with 20 breakpoints from $2 billion to $210 billion in assets. Figure 4 is a graphical representation of the fee schedule over the range from $1 billion to $250 billion in assets under management.

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The Growth Fund of America fee curve bears a striking resemblance to the cost curve of Figure 1. Fees decline at a decreasing rate as assets under management increase, i.e., as economies of scale are realized. The fee curve is consistent with the board imposing breakpoints in the fee schedule as economies of scale are realized and the profit margin on the fund approaches the profit margin ceiling. Clearly the fee schedule imposes lower fees as assets under management increase. The impact of the fee schedule is shown in Figure 3: The fees on the fund declined regularly over the 1995 to 2018 period.

The specific cost allocation methodology used by American Funds is unknowable, but its footprints are unmistakable. Fees decline as assets under management increase in a manner consistent with realized cost economies.

2. Vanguard Primecap Fund

The Primecap Fund SAI states that the fee rate schedule charged by the subadvisor (PrimeCap) has breakpoints built in but does not reveal the schedule.\textsuperscript{85} At any rate, examination of Figure 3 shows that the Primecap fee declined over the 1995 to 2018 period. Moreover, the fee declined roughly in parallel to the Growth Fund of America fees, so the schedule reflects economies of scale realized by the subadvisor.

Unlike advisory fees where the fund is a captive of the fund sponsor, Vanguard is free to negotiate fees. Subadvisory fees are thus proxy fees determined by arm’s-length bargaining and approximate the true cost of managing assets at different levels.\(^{86}\)

3. **Fidelity Contrafund**

Examination of Figure 3 reveals three notable things about Contrafund fees over the 1995 to 2018 time period. First, fees do not appear to decline significantly over the period despite substantial asset growth. Second, on average fees were much higher than the fees on the Vanguard and American Funds. And third, fees were highly variable. Clearly the Fidelity fee schedule was much different from the American and Vanguard schedules and the SAI confirms this.\(^{87}\)

\[\text{Each fund pays FMR a monthly management fee which has two components: a basic fee, which is the sum of a group fee rate and an individual fund fee rate, and a performance adjustment based on a comparison of the fund’s performance to that of a designated index. The group fee rate is based on the monthly average net assets of a group of registered investment companies with which FMR has management contracts. ... Based on the average group net assets for December 2019, a fund’s annual basic fee rate would be calculated as follows:}\]

<table>
<thead>
<tr>
<th>Fund Rate</th>
<th>Group Fee Rate Basic Fee Rate(^{88})</th>
<th>Individual Fund Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contrafund(^{8})</td>
<td>0.2327% + 0.3000% = 0.5327%</td>
<td></td>
</tr>
</tbody>
</table>

Notice that the basic fee rate, which is the sum of the group fee and individual fee rates, was 54 basis points in 2018, double the 27 basis point advisory fee on the Growth Fund of America. The actual advisory fee rate for the Contrafund in 2018 was 68 basis points because the performance fee was about 14 basis points.

\(^{86}\) The true cost is somewhat lower than the subadvisory fee rate as the subadvisor will realize a market determined profit margin. Profit margins on subadvised funds are unknown but almost certainly lower than fund sponsor margins because they are the result of competitive forces.

\(^{87}\) FIDELITY CONTRAFUND SAI, supra note 84, at 40–43.

\(^{88}\) Id. at 40–41.
The verbiage explaining the advisory fee is complex, but the result is clear. Examination of the 2005 Contrafund SAI\textsuperscript{89} reveals that the group fee rate was 27 basis points and the individual fee rate was unchanged at 30 basis points. Thus, the basic fee in 2005 was 57 basis points, three basis points greater than the 2018 basic fee. Because the individual fee rate is constant, the only fee tied to the level of assets is the group fee rate and it is tied to group assets. The performance fee complicates the issues but is clearly unrelated to the level of assets.

It is unknown how Fidelity presents profitability and economies of scale information to the board in § 15(c) reports. However, because the group fee rate is based on group assets, it follows that costs associated with the Contrafund profitability calculation are based on group assets, not Contrafund assets. This understates the true profitability of the fund and distorts economies of scale.

The impact of asset-based cost allocations would have been enhanced for the Contrafund based on the number of new funds brought into existence by Fidelity between 1995 and 2018 as shown at the bottom of Table 4. The Fidelity lineup of funds more than doubled from 127 to 267 actively managed funds. Vanguard and American Funds by comparison only increased by 35 and 40% respectively. In 2018, Fidelity offered more than four times the number of funds as Vanguard and almost 8 times the number of American Funds.

C. Comparative Costs Analysis of Three Funds

A comparative analysis of the three funds is confounded by large differences in the level of assets in 2018. However, this problem is overcome by comparing fees that would be charged on the American and Vanguard funds at the level of assets of the Contrafund in 2018. The Contrafund had about $126 billion in assets then and, from the Growth Fund of America fees schedule, the fee would have been about 28 basis points. The Primecap fee schedule is unknown but, by projecting the fee using a regression analysis on the actual fees and assets over the 1995 to 2018 period, we estimate that the fee would be 16.4 basis points.

Using these assumptions, i.e., $126 billion in assets, it is possible to get rough estimates of the revenues and costs involved. If Vanguard were managing the $126 billion in Contrafund assets at the projected 16.4 basis point fee, then revenues would be about $200 million. That amount would be charged to Vanguard investors. However, the subadvisor would make a normal profit on the transaction. Profit margins on competitively bid

\textsuperscript{89} The earliest year for which the SAI for the Fidelity Contrafund was available in the SEC EDGAR database is 2005.
contracts are unknown. Assume for discussion purposes that the subadvisor achieved a 50% profit margin. This means that the underlying costs of managing $126 billion would be about $100 million (about 50% of about $200 million in revenue).

Assume that Capital Group is managing the $126 billion in Contra assets in 2018. Using the Growth Fund of America fee schedule and applying the 28 basis point fees, revenues to the American Funds owners would be about $350 million. The assumption is that fees are reduced as profit margins push against the profit margin cap set in Schuyt. Thus, it is reasonable to assume that a 28 basis point fee on $126 million in assets would generate a profit margin of about 75% for the American Funds parent company and dollar profit of about $265 million. A 75% profit margin implies that costs are 25% of revenues; 25% of $350 million is about $88 million. Note that $88 million in costs to manage $126 billion is not that different from the $100 million in the Vanguard estimates.

For Fidelity, the 68 basis point advisory fee applied to $126 billion in assets generates revenue of about $850 million. If the Fidelity board limits fees up to the point where a 75% profit margin is achieved, the profits to Fidelity would be 75% of $850 million, or about $640 million. This implies costs of 25% of $850 million, or about $215 million. The implied costs are almost two and a half times the implied American Funds costs.

Assume for argument purposes that the fee on the Contra fund is limited to the basic fee of 54.1 basis points. Under those circumstances, revenue to FMR would be about $680 million and profit at 75% would be about $510 million. Costs would be about $170 million, or about double the costs of American Funds.

There are two possible explanations for the estimated cost differences: either FMR is so inefficient that it costs about twice as much to manage $126 billion as Capital Group, or its true profit margins are greater than reported profit margins. Given the opacity of its fee schedule, it seems likely that the latter explanation is the case.

D. T. Rowe Price, Vanguard, and American Funds—Another Three Fund Comparison

The comparative analysis in the previous section was confounded somewhat by the disparity in size of the funds involved and the use of performance fees by Fidelity. Here, we analyze a large
T. Rowe Price fund, the Growth Stock Fund,\textsuperscript{90} that does not impose performance fees. We compare its fees to two similar sized funds: the Vanguard Primecap Fund discussed above and the American Funds Amcap Fund.\textsuperscript{91} These funds were classified as Large Cap Growth Funds by Morningstar and were continuously offered from 1995 to 2018.

Panel B of Table 5 details the levels and changes in assets and advisory fees of the three funds in question. Figure 5 is a graphical presentation of advisory fees over the 1995 to 2018 time period.

The three funds exhibited similar ending assets and growth rates in assets over the period. Advisory fees on the Vanguard fund decreased by about 36% from 28 to 18 basis points. Advisory fees


\textsuperscript{91} Like the Growth Fund of America discussed above, the SAI of the American Funds AMCAP Funds reveals a fee schedule with 12 breakpoints from .485 to .277 percent. The first breakpoint is at $1 billion in assets and the final fee applies to all assets in excess of $71 billion. Statement of Additional Information dated 05/01/2020 for 023375876: American Funds AMCAP Fund, CAP. GRP. (May 1, 2020), https://prospectus-express.broadridge.com/PNet/summary.asp?clientid=amfds&fundid=023375876&docType=sai [https://perma.cc/TWF4-LLD8].
on the American Funds Amcap Fund decreased 25% from 40 to 30 basis points. The T. Rowe Price Growth Stock Fund advisory fee fell from 58 to 51 basis points, a 12% decline.

Thus, the T. Rowe Price advisory fee was nearly three times as high as the Vanguard fees and 70% higher than the Amcap fee. Moreover, the fee declined at a much lower rate than fees on the Vanguard and American funds.

T. Rowe Price was able to maintain a high advisory fee and minimize the decreases caused by asset growth by using an asset-based cost allocation method. This is revealed in the 2005 SAI for the fund, the earliest available on the SEC EDGAR system.

The Management Fee. . . . This fee has two parts—an "individual fund fee," which reflects a fund's particular characteristics, and a "group fee." The group fee, which is designed to reflect the benefits of the shared resources of the T. Rowe Price investment management complex, is calculated daily based on the combined net assets of all T. Rowe Price funds. . . . The group fee schedule (shown below) is graduated, declining as the asset total rises, so shareholders benefit from the overall growth in mutual fund assets.92

The phrase “benefits of the shared resources of the T. Rowe Price investment management complex” makes explicit that asset-based cost allocation methods are in use; shared resources is another way of saying shared costs. The last sentence above (“so shareholders benefit from the overall growth of mutual fund assets”) reinforces the notion that fees are driven by complex assets and not the assets of the individual fund.93

The lower part of Panel B reveals that T. Rowe Price more than doubled the number of funds in the complex between 1995 and 2018 from 50 to 111 funds. Thus, like Fidelity, the impact of asset-based cost allocations would

93 This is not strictly true as the SAI reveals one breakpoint in the individual fund fee schedule. The policy of charging advisory fees based on individual and group assets continues. The current Growth Stock Fund SAI: “The funds pay T. Rowe Price a fee ("Fee"), which consists of two components: a group management fee ("Group Fee") and an individual fund fee ("Fund Fee").” See T. ROWE PRICE, supra note 90.
have been enhanced based on the number of new funds brought into existence over the period.

E. Observations

Public filings of the Fidelity and T. Rowe Price complexes offer compelling evidence that a substantial proportion of actively managed open-end mutual fund assets are priced using assets of the fund complex rather than individual fund assets.\textsuperscript{94} It follows that the trustees/directors of those fund complexes are routinely presented with corrupted profit margin and economies of scale information. This procedure allows fund sponsors to avoid reducing fees on large funds as economies of scale would cause profit margins to exceed judicially developed caps if appropriate cost allocation methods were utilized.

There is evidence, largely circumstantial, that the use of inappropriate cost allocation methods is common in the investment management industry. Data presented in Table 3 above is consistent with this proposition. It is highly suggestive that between 1995 and 2018 actively managed mutual fund assets grew by almost 700% while weighted average advisory fees fell only 8%. It is well-known that the advisory function is subject to substantial economies of scale. An increase of assets of that magnitude should have resulted in a much greater fall in average fees. This observation is reinforced by noting the far greater percentage decrease in administrative and distribution fees over the same period; 51.5 and 54.7%, respectively.

These observations are also reinforced by observing that the number of funds offered more than doubled between 1995 and 2018. It is well documented that profit margins on equity funds are the highest of all categories and thus most likely to pierce case law profit margin caps. The number of new equity funds increased by about 160% as more than 2,200 net new equity funds came into existence.\textsuperscript{95}

Investment management firms are for-profit enterprises and their primary motivation is profits for their shareholders. Thus, investment management firms are incentivized to utilize any legal method of maximizing revenues and profits. It falls to fund directors to police the behavior of fund sponsors and all indications are that they have failed in their duties, discussed next.

\textsuperscript{94} As shown above, the two complexes collectively manage 15% of total actively managed mutual fund assets and 19% of actively managed equity mutual fund assets. \textit{See infra} p. 33.

\textsuperscript{95} There is some direct evidence of industry use of asset-based cost allocation methods. Clearly Calamos did so and one of their defense experts testified that such procedures are common in the industry.
VI. FUND GOVERNANCE

The introduction to the paper highlighted a potential conflict that mutual fund boards should be aware of arising from a sponsor’s use of certain profitability methodologies to understate profit. Accounting convention and case law thus far allow fund sponsors wide latitude in the choice of methodologies used to allocate indirect costs in profitability calculations. The mutual fund investment management industry is incentivized to use cost allocation methodologies that mitigate against lowering fees on large funds as assets increase. The industry has taken full advantage of the conflict of interest. This section explores the duties and responsibilities of mutual fund boards and attempts to assign responsibility for the apparent breakdown in fund governance.

A. Fund Governance

“Two noteworthy industry insiders have commented on the general failure of mutual fund boards to fulfill their responsibilities under the ICA. Jack Bogle, founder of the Vanguard Group, made the following comment:

Well, fund directors are, or at least to a very major extent, sort of a bad joke. They’ve watched industry fees go up year after year, they’ve added 12b-1 fees. I think they’ve forgotten, maybe they’ve never been told, that the law, the Investment Company Act, says they’re required to put the interest of the fund shareholders ahead of the interest of the fund adviser. It’s simply impossible for me to see how they could have ever measured up to that mandate, or are measuring up to it.”

“Warren Buffett, famous investor and chairman of Berkshire Hathaway, made the following comment, which was recently quoted by a United States District Court:

I think independent directors have been anything but independent. The Investment Company Act, in 1940, made these provisions for independent directors on the theory that they would be the watchdogs for all these people pooling their money. The behavior of independent directors in aggregate since 1940 has been to rubber stamp every deal that’s come along from management—whether management

was good, bad, or indifferent. Not negotiate for fee reductions and so on. A long time ago, an attorney said that in selecting directors, the management companies were looking for Cocker Spaniels and not Dobermans. I’d say they found a lot of Cocker Spaniels out there.”

Palmiter argues that fund independent directors:

approve fund transactions with the management firm and ensure compliance with the 1940 Act and implementing SEC rules. Fund directors thus function as outsourced regulators, with their selection and compensation in the hands of the management firm they supervise . . . . Fund boards have been weak and even feckless protectors of fund investors . . . .

Birdthistle and others are also skeptical of the efficacy of fund governance. Birdthistle found evidence that the investment management industry has “camouflaged extractions of shareholder value,” i.e., rents, and that fund governance failed to detect or prevent large-scale market timing and late trading that cost fund investors billions of dollars.

B. Duties and Responsibilities

97 Id. (quoting Strougo v. BEA Assocs., 188 F.Supp.2d 373, 383 (S.D.N.Y. 2002); then citing Haywood Kelly, A Quick Q & A with Warren Buffett, MORNINGSTAR (May 6, 1998)).
100 See David J. Carter, Mutual Fund Boards and Shareholder Action, 3 VILL. J.L. & INV. MGMT. 6 (2001) (questioning the effectiveness of fund governance because the interests of independent mutual fund directors may be closely aligned with those of interested directors); John P. Freeman & Stewart L. Brown, Mutual Fund Advisory Fees: The Cost of Conflicts of Interest, 26 J. CORP. L. 610 (2001) (a fund’s board interests may be aligned with the investment adviser, rather than the shareholders); Lyman P.Q. Johnson, A Fresh Look at Director “Independence”: Mutual Fund Fee Litigation and Gartenberg at Twenty-Five, 61 VAND. L. REV. 497 (2008) (sharing inconclusive empirical evidence on the relationship between mutual fund director independence and mutual fund advisory fees); Eric D. Roiter, Disentangling Mutual Fund Governance from Corporate Governance, 6 HARV. BUS. L. REV. 1 (2016) (differences between mutual funds and corporations necessitate a disentanglement of mutual fund governance from corporate governance).
The Supreme Court has ruled that fund directors are supposed to serve as ongoing “watchdogs” over all adviser activities.\(^{102}\) Moreover, according to the Fund Director’s Guidebook, “it is the independent directors' responsibility to represent the interests of fund shareholders where those interests might be in conflict with those of the adviser.”\(^{103}\)

[The SEC encourages] directors to be an “independent force in fund affairs” rather than passively accept the recommendations of management. The SEC has urged fund directors to bring to the boardroom “a high degree of rigor and skeptical objectivity to the evaluation of management and its plans and proposals,” particularly when evaluating conflicts of interest. Directors should be “highly skeptical” of arguments that merely rationalize the resolution of conflicts in favor of the fund adviser, the SEC has said, and should seek results that advance the best interest of fund shareholders.\(^{104}\)

The Mutual Fund Director’s Forum has similar advice for new directors:

Directors are expected to exercise their reasonable "business judgment" in overseeing the Fund's performance and that of its service providers. Directors' two key duties are: (1) a duty of care, which requires the level of care that a "reasonably prudent person" would exercise with respect to his or her own business; and (2) a duty of loyalty, which requires Directors to put the interests of the Fund and its shareholders ahead of their own interests and those of the Fund's management or its service providers. Directors who are "independent" directors ("Independent Directors") are also expected to watch out for potential conflicts that may arise between their Fund and its service providers.\(^{105}\)

Fund directors are supposed to be watchdogs, exercise a high degree of rigor and skeptical objectivity, and exercise reasonable business judgment in performing their duties. Moreover, the Guidebook tells us that “it is the duty of the directors to request and evaluate, and the duty of the adviser to furnish, such information as may reasonably be necessary to evaluate the terms of the [advisory] contract.”\(^{106}\)

\(^{103}\) COMMITTEE ON FEDERAL REGULATION OF SECURITIES, FUND DIRECTOR’S GUIDEBOOK 1 (4th ed. 2015).
\(^{104}\) Id. at 70–71.
\(^{106}\) FUND DIRECTOR’S GUIDEBOOK, supra note 103, at 43.
Directors, exercising business judgment with a “reasonably prudent person” level of care, should therefore delve into the cost allocation methodology underpinning the profit margin numbers in § 15(c) reports. That clearly has not happened for most big fund complexes. The reasons for this are not difficult to identify. The Fund Directors Guidebook contains the following passage:

The profitability of a particular advisory contract is one of the most difficult factors to analyze because, among other things, it generally requires an equitable allocation of the adviser’s overall costs and expenses among the various funds and any other clients for whom it provides services. Courts have closely scrutinized costs and profitability data and methodologies. In so doing, the courts have acknowledged that there are many acceptable ways to allocate common costs, each of which could lead to a significantly different result. In general, a court should not invalidate a cost allocation methodology reviewed by independent directors if the methodology has a reasonable basis. Information about distribution costs is relevant to overall assessment of business arrangements, but it is important to identify and distinguish the marketing and promotional costs incurred by the adviser and its affiliates.107

Thus, the Fund Director’s Guidebook parrots the industry position that there are many acceptable ways to allocate common costs and widely different profit margins are thus possible. This paper shows that when costs are segregated properly in advisory profit margin calculations, the range of outcomes and acceptable methodologies are narrowed dramatically.

C. Assigning Responsibility

This paper reveals how the mutual fund investment management industry has been able to maintain high levels of advisory fees over long time periods by utilizing cost allocation methodologies that compress and understate fund profitability numbers. A large percentage of mutual fund boards have accepted these numbers uncritically. Although “it is the independent directors’ responsibility to represent the interests of fund shareholders where those interests might be in conflict with those of the adviser,”108 that has not happened.

107 Id. at 48.
108 Id. at 1.
Advisory fees have been essentially flat for more than 20 years. This is inconsistent with economies of scale and the extant profit margin cap. The only group/institution in a position to critically evaluate individual fund cost allocation methodologies and profit margins is the board of directors. Thus, the basic notion stands: there has been a failure of fund governance. In addition to the failure of fund governance, however, other parties must bear some of the responsibility. Fund sponsors have successfully gamed the system and “fiduciary duty” with respect to fees has been a meaningless concept. The judicial system has been especially permissive where cost allocation methodology is concerned, and the SEC has been missing in action. Some of these issues will be sorted out next.

VIII. SUMMARY AND CONCLUSIONS

The stated purpose of this paper is to explain why mutual fund advisory fees have been essentially constant over long time periods of high asset growth. In the simplest terms, the investment management industry has gamed the system. It has utilized cost allocation methodologies to minimize fee decreases on large funds when economies of scale might force profit margins above the cap established in Schuyl. It has been aided in this endeavor by a judicial system deferential to industry interests.

A. A Deferential Judicial System

Industry success in gaming the system has been followed by success in manipulating a judicial system reluctant to deal with the complexity of the issues involved. The genesis of this reluctance may be found in Congressional hearings during the debate leading up to the 1970 Amendments to the ICA.

The SEC argued that advisory fees were excessively high because there is no arm’s-length bargaining between fund boards and fund sponsors. The Commission argued for a reasonableness standard enforceable in court to solve this problem. The investment management industry argued that a reasonableness standard was tantamount to rate regulation as commonly applied to public utilities. The Senate came down on the side of the industry, making it clear that there was no intention to subject the industry to rate regulation.

The judiciary responded by crafting a subjective and extreme fiduciary standard. The standard set in Gartenberg, and affirmed in Jones, has proven to be an insurmountably high hurdle for plaintiffs to overcome in § 36(b) cases despite mounting evidence that advisory fees remain much higher than fees established by arm’s-length bargaining. The disconnect between the economic reality of unreasonably high advisory fees and an unsurmountable
fiduciary standard was recently highlighted in a case where it became apparent that the court was willfully blind to the realities of advisory fees.\textsuperscript{109}

Judicial willful blindness about cost allocation methodology manifested itself in \textit{Krinsk}. Despite Rule 12b-1, which requires the strict segregation of distribution and advisory costs, the court blithely allowed Merrill Lynch to freely mix fees and costs, resulting in very large differences in profit margins calculated using different assumptions about the costs of distribution activities. The large differences in profit margins exhibited in \textit{Krinsk} are the genesis of much confusion. Citing \textit{Krinsk}, the industry argues that the profit margin standard should be eliminated as one of the factors considered in fee litigation. Language in the Fund Director’s Guidebook reflects cost allocation views very similar to the industry view. These views are parroted by the Mutual Fund Directors Forum.

The segregation of advisory fees and costs from other activities eliminates the very wide range of profit margins highlighted by the industry. There are not many different appropriate cost allocation methodologies, but few, and the range of possible profit margins is not wide, but narrow.

Fortunately, \textit{Schuyt}, the most often cited fee case, clearly segregates advisory and distribution costs when calculating profit margins. Moreover, \textit{Schuyt} applies a cost allocation methodology that preserves the relationship between profit margins and economies of scale.

\section*{B. Operating Profit Margins, Cost Allocations, and Economies of Scale}

Operating profit margins are calculated by subtracting the sum of direct and indirect costs from revenues in the numerator. It is well-known that operating profit margins in the advisory function are commonly in the range of 50 to 70\%. As demonstrated above, it is impossible to have profit margins in that range absent substantial economies of scale and this insight is

\textsuperscript{109} In \textit{Kasilag v. Hartford Investment Financial Services, LLC}, the investment manager was not staffed to undertake any investment advisory services. It sub-contracted all core investment management activities to sub-advisors. The six named funds generated about $150 million in revenues and costs amounted to about $50 million, including about $49 million in sub-advisory fees. Hartford profited by about $100 million for doing essentially very little or nothing, yet the court ruled that “Plaintiffs have not carried the burden of showing that the nature of the services indicates the fees were so disproportionate that they could not have been negotiated at arm’s-length.” \textit{Kasilag v. Hartford Inv. Fin. Servs., LLC}, No. 11-1083, 2017 WL 773880, at *21 (D.N.J. Feb. 28, 2017), aff’d, 745 F.App’x 452 (3d Cir. 2018).
congruent with the intuition that the investment management function is highly scalable.

Indirect costs must somehow be allocated to different funds when the fund sponsor operates more than one fund. There are different allocation methods, but these may be divided into two classes: those that allocate indirect cost proportionate to direct costs or those that use some other method. Allocating indirect costs proportionate to direct costs preserves the relationship between profit margins and economies of scale. Other methodologies distort the relationship. Fund boards are required to determine if economies of scale are being shared equitably. It follows that fund boards should be presented with an undistorted view of economies of scale.

**Schuyt** allocated indirect costs using an activity-based cost allocation method that is consistent with allocating indirect costs proportionate to direct costs. Other cost allocation methods, most notably allocations based on fund assets, are not only inconsistent with allocation using direct costs but inconsistent with **Schuyt**.

It is common for fund sponsors to allocate all costs, not just indirect costs, proportionate to assets. In the example presented above this resulted in profit margins across funds being equal. It is notable that, even using this extreme method, profit margins so calculated did not differ significantly from margins properly calculated. This reinforces the notion that different cost allocation methodologies do not result in significantly different margin numbers when advisory costs are strictly segregated from other functions.

It is also common for fund sponsors to allocate indirect costs proportionate to assets and, as the Keil Fiduciary Associates white paper makes clear, it is well-known that this results in compression of calculated profit margins. It follows that it must also be true that it distorts the relationship between profit margins and economies of scale presented to fund boards.

**C. The Puzzle Solved: Industry Advisory Fees Over Time**

The purpose of this paper was to unravel the puzzle of how the industry managed to maintain essentially level advisory fees over the 2005 to 2015 period when the growth of assets exceeded 100%. This paper shows that essentially the same result occurred over the 1995 to 2018 period when industry assets exhibited growth of almost 700%. The average fee level was maintained even though it is well-known that the mutual fund investment advisory function exhibits large economies of scale.

Fund sponsors are incentivized to use asset-based cost allocation methods to compress profit margins reported to the board. This allows for
the maintenance of high fees on the largest and most profitable funds. Absent these machinations, reporting accurate margins would cause the fund’s directors to insist on lower fees by the imposition of breakpoints in fee schedules.

An empirical analysis of the fees of different mutual fund complexes yields compelling evidence supporting the proposition that level fees over time are an artifact of inappropriate cost allocation methodologies by fund complexes holding a large proportion of industry assets. This analysis was facilitated by the existence of a fund complex, American Funds, which utilized a cost allocation methodology that forced a clear relationship between fees and assets.

D. Conclusion: Watchdogs Slumber

We submit that the puzzle is solved: the mutual fund industry maintains advisory fee levels in the face of large increases in assets by issuing lots of new funds and using asset-based cost allocation methods to avoid the appearance of excessive or increasing profit margins.

The crux of the issue is a potential conflict of interest arising from a fund sponsor’s use of profitability methodology to understate profitability. Fund boards have a clear responsibility to represent the interests of fund shareholders. That has not happened. It is not clear if fund boards are willfully blind to the cost allocation issues or just lulled into inaction by judicial permissiveness and industry duplicity. It does not matter which is the case. Fund boards are ultimately responsible, and they are now on notice that it is time to wake up.